

WHAT IS CLAIMED IS:

- 1 1. A method of assembling first and second optical assemblies of an optical
2 head comprising:
3 positioning the first and second optical assemblies adjacent to each other,
4 wherein the first optical assembly comprises a first optical element,
5 wherein the second optical assembly comprises a second optical
6 element, and wherein the first and second optical elements are
7 configured to transmit light for reading or writing data to an optical
8 data storage media;
9 adjusting a position of a first optical assembly with respect to the second
10 optical assembly until the first optical element and second optical
11 elements are in optical communication with each other;
12 rigidly connecting the first and second optical assemblies while the first and
13 second optical elements are in optical communication with each other.

- 1 2. The method of claim 1 wherein the first optical element comprises a first
2 optical axis, wherein the second optical element comprises a second optical axis, and
3 wherein the position of the first optical assembly is adjusted with respect to the
4 second optical assembly until the first optical axis is in substantial optical alignment
5 with the second optical axis.

- 1 3. The method of claim 1 further comprising viewing the second optical
2 component through the first optical component, wherein the position of the first
3 optical assembly is adjusted until the second optical component is seen optically
4 concentric with the first optical element.

- 1 4. The method of claim 1 wherein rigidly connecting the first and second
2 optical assemblies comprises applying a first adhesive to the first and second optical
3 assemblies and activating the first adhesive to create a fixed bond between the first
4 and second optical assemblies.

- 1 5. The method of claim 4 wherein first and second optical assemblies engage
2 each other while the first adhesive is applied thereto.

1 6. The method of claim 5 wherein the first adhesive is UV light activated,
2 wherein activating the first adhesive comprises subjecting the first adhesive to UV
3 light.

1 7. The method of claim 1 wherein the second optical assembly further
2 comprises first and second light beam shaping elements, wherein light is transmitted
3 from the second optical element to the first optical element via a light path, wherein
4 the light path comprises first, second, and third sections, wherein the first section
5 extends between the second optical element and the first light beam shaping element,
6 wherein the second section extends between the first and second light beam shaping
7 elements, wherein the third section extends between the second light beam shaping
8 element and the first optical element, and wherein the second section extends
9 orthogonally to the first and third sections.

1 8. A method of assembling an objective lens and an optical assembly of an
2 optical head comprising:

3 positioning the objective lens and the optical assembly adjacent to each other,
4 wherein the optical assembly comprises an optical element, wherein
5 objective lens is configured to focus a laser beam onto an optical data
6 storage media for reading or writing data thereto;
7 adjusting a position of the objective lens with respect to the optical assembly
8 until the objective lens and optical element are in optical
9 communication with each other;
10 rigidly connecting the objective lens and the optical assembly while the
11 objective lens and the optical element are in optical communication
12 with each other.

1 9. The method of claim 8 wherein the objective lens comprises a first optical
2 axis, wherein the optical element comprises a second optical axis, and wherein the
3 position of the objective lens is adjusted with respect to the optical assembly until the
4 first optical axis is in substantial optical alignment with the second optical axis.

1 10. The method of claim 8 further comprising viewing the optical component
2 through the objective lens, wherein the position of the objective lens is adjusted until
3 the optical component is seen optically concentric with the objective lens.

1 11. The method of claim 8 wherein the objective lens is rigidly connected to a
2 spacer, wherein rigidly connecting the objective lens and the optical assembly
3 comprises applying a first adhesive to the spacer and optical assembly and activating
4 the first adhesive to create a fixed bond between the spacer and the optical assembly.

1 12. The method of claim 11 wherein the spacer and the optical assembly
2 engage each other while the first adhesive is applied thereto.

1 13. The method of claim 12 wherein the first adhesive is UV light activated,
2 wherein activating the first adhesive comprises subjecting the first adhesive to UV
3 light.

1 14. The method of claim 1 wherein the optical assembly further comprises
2 first and second light beam shaping elements, wherein light is transmitted from the
3 optical element to the objective lens via a light path, wherein the light path comprises
4 first, second, and third sections, wherein the first section extends between the optical
5 element and the first light beam shaping element, wherein the second section extends
6 between the first and second light beam shaping elements, wherein the third section
7 extends between the second light beam shaping element and the objective lens, and
8 wherein the second section extends orthogonally to the first and third sections.

1 15. A method of assembling an objective lens and an optical assembly of an
2 optical head comprising:

3 positioning the objective lens and the optical assembly adjacent to each other,
4 wherein the optical assembly comprises a forward sense element
5 (FSE);
6 adjusting a position of the objective lens with respect to the optical assembly
7 until the objective lens and the FSE are in optical communication with
8 each other;

9 rigidly connecting the objective lens and the optical assembly while the
10 objective lens and the FSE are in optical communication with each
11 other.